

## CLAIMS

What is claimed is:

1. A self-adjusting release bearing in the form of a tapered rolling bearing for a separating clutch disposed between an internal combustion engine and a gearbox of a motor vehicle, said clutch release bearing comprising:  
a non-rotating first bearing ring;  
a revolving second bearing ring;  
a plurality of rolling elements guided between the first and second bearing rings; and  
an adjustment ring having a calotte-shaped section in a contact zone for support upon a complementary calotte-shaped section of one of the first and second bearing rings to thereby allow pivoting of the release bearing; and  
a sliding element made of thermoplastic material and disposed in the contact zone.
2. The release bearing of claim 1, wherein the sliding element is made of PA 46 CF 30 /PTFE 5 /H.
3. The release bearing of claim 1, wherein the sliding element is made of polyamide.

4. The release bearing of claim 1, wherein the sliding element is made of polyaryletherketone (PAEK).
5. The release bearing of claim 1, wherein the thermoplastic material includes an additive.
6. The release bearing of claim 5, wherein the additive includes carbon fibers.
7. The release bearing of claim 1, wherein the sliding element has a thickness in the range of 0.5 mm to 6 mm.
8. The release bearing of claim 1, wherein the adjustment ring and the first bearing ring have the complementary calotte-shaped sections in the contact zone.
9. The release bearing of claim 1, wherein the adjustment ring and the second bearing ring have the complementary calotte-shaped sections in the contact zone.
10. The release bearing of claim 1, wherein a member selected from the group consisting of the first bearing ring, second bearing ring and adjustment ring, is provided with a coating made of PA 46 CF 30 /PTFE 5 /H for formation of the sliding element.

11. The release bearing of claim 10, wherein the sliding element is applied on the member by an injection molding process.
12. The release bearing of claim 10, wherein the member has a support surface formed with a groove for receiving the coating.
13. The release bearing of claim 12, wherein the groove is configured as an axis-parallel or helical notch.
14. The release bearing of claim 1, wherein the sliding element is configured to embrace a member selected from the group consisting of first bearing ring, second bearing ring and adjustment ring, at least in predetermined sections.
15. The release bearing of claim 1, wherein the sliding element is connected by a glue onto the adjustment ring or the one of the first and second bearing rings.
16. The release bearing of claim 15, wherein the glue is hot-melt adhesive.
17. The release bearing of claim 1, wherein the sliding element is a separate member made of PA 46 CF 30 /PTFE 5 /H for disposition in the contact zone.

18. A sliding element for disposition between an adjustment ring of steel and a bearing ring of steel of a clutch release bearing, said sliding element being made of thermoplastic material. ✓
19. The sliding element of claim 18, wherein the sliding element is made of a polyamide matrix combined with embedded carbon fibers in combination with polytetrafluoroethylene.
20. The sliding element of claim 18, wherein the sliding element is made of polyaryletherketone.